Preliminary Review of NEI Items submitted on 7/30/2004

On July 30, 2004, NEI submitted additional Material-Environment-Aging effect-AMP combinations for consideration to be included in the GALL report. The original NEI submittal of these items may be found in ADAMs on accession number ML042430150 or this website:

http://www.nrc.gov/reactors/operating/licensing/renewal/guidance/updated-guidance.html

On this Website, look in Background, then look for date, 7/30/2004.

The following is the preliminary draft of the review of these items. They will be assigned to the appropriate subsections of the Gall report at a later date.

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-1	VII.G VII.H1 VII.H2	Piping, piping components, and piping elements	Aluminum	Fuel oil	Loss of material/General, pitting, crevice corrosion, and microbiologically influenced corrosion	Chapter XI.M30, "Fuel Oil Chemistry" The AMP is to be augmented by verifying the effectiveness of fuel oil chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated
NEI-2		Piping, piping components, and piping elements	Aluminum	Air – indoor controlled (External)	None	None	
NEI-3		Piping, piping components, and piping elements	Aluminum	Gas	None	None	
NEI-4	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Piping, piping components, and piping elements	Aluminum	Treated water	Loss of material/General, pitting, and crevice corrosion	XI.M2 Water Chemistry The AMP is to be augmented by verifying the effectiveness of water chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated

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NEI-5	VII.G VII.E1 VII.H1 VII.H2 VIII.E VIII.F VIII.G	Heat exchanger shell side components	Steel	Lubricating oil (no water pooling)	Macrofouling and loss of material/General, pitting, crevice and microbiologically influenced corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-6	VII.G VII.H2	Heat exchanger tubes	Steel	Air – outdoor (External)	Loss of material/General, pitting, and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-7	IV.A IV.D1 IV.D2 VII.A VII.C VII.E1 VII.D	Heat exchanger tubes	Steel	Air – indoor uncontrolled (External)	Loss of material/General, pitting, and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-8	IV	Piping, piping components, and piping elements	Steel	Closed Cycle Cooling Water	Loss of material/General, pitting, and crevice corrosion	XI.M21 Closed Cycle Cooling Water System The AMP is to be augmented by verifying the effectiveness of water chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-9	VII.C3 VII.E4 VII.E3 VII.E1	Piping, piping components, and piping elements	Steel	Steam	Loss of material/General, pitting, and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-10	VII.G VII.E1 VII.H1 VII.H2	Piping, piping components, and piping elements	Steel	Lubricating oil	Loss of material/General, pitting, and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-11	VII.C1 VII.C2 VII.C3 VII.G VII.H1 VII.H2 VIII.G	Piping, piping components, and piping elements	Gray cast iron	Soil	Loss of material/Selective leaching	Chapter XI.M33, “Selective Leaching of Materials”	No
NEI-12	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Piping, piping components, and piping elements	Gray cast iron	Treated water	Loss of material/Selective leaching	Chapter XI.M33, “Selective Leaching of Materials”	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-13	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Gray cast iron	Untreated water	Loss of material/Selective leaching	Chapter XI.M33, "Selective Leaching of Materials"	No
NEI-14	V.A V.B V.D1 V.D2 VII.A3 VII.A4 VII.C2 VII.E2 VII.E3 VII.E4 VII.F1 VII.F2 VII.F3 VII.F4 VII.H1 VII.H2 VIII.E VIII.F VIII.G	Piping, piping components, and piping elements	Cooper Alloy	Closed cycle cooling water	Loss of material/General, galvanic, pitting and crevice corrosion	XI.M21 Closed Cycle Cooling Water System	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-15	IV.C1 IV.C2	Piping, piping components, and piping elements	Cooper Alloy	Closed cycle cooling water	Loss of material/General, galvanic, pitting and crevice corrosion	XI.M21 Closed Cycle Cooling Water System The AMP is to be augmented by verifying the effectiveness of chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated
NEI-16		Piping, piping components, and piping elements	Cooper Alloy	Fuel oil (Water as a contaminant)	Loss of material/Pitting, crevice, and microbiologically influenced corrosion	XI.M30 Fuel Oil Chemistry The AMP is to be augmented by verifying the effectiveness of water chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	Yes, detection of aging effects is to be evaluated
NEI-17	VII.C1 VII.C3 VII.G VII.H2 VIII.?	Piping, piping components, and piping elements	Cooper Alloy	Raw water	Loss of material/General, pitting, crevice, galvanic corrosion, and microbiologically influenced corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-18	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Cooper Alloy	Raw water	Loss of material/Selective leaching	Chapter XI.M33, "Selective Leaching of Materials"	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-19	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Cooper Alloy	Raw water	Cracking/Stress corrosion cracking	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-20	IV.C1 IV.C2 VII.G VII.E1 VII.H1 VII.H2	Piping, piping components, and piping elements	Cooper Alloy	Lubricating oil	Loss of material/Pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-21		Piping, piping components, and piping elements	Glass	Air and steam	None	None	
NEI-22		Piping, piping components, and piping elements	Glass	Fuel oil	None	None	
NEI-23	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Glass	Raw water	None	None	

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-24	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Piping, piping components, and piping elements	Glass	Treated water	None	None	
NEI-25		Piping, piping components, and piping elements	Glass	Treated borated water	None	None	
NEI-26	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Nickel alloy	Raw water	Loss of material/Pitting and crevice corrosion	XI.M20 Open Cycle Cooling Water System and XI.M33, "Selective Leaching of Materials"	No
NEI-27		Piping, piping components, and piping elements	Stainless steel	Fuel oil	Loss of material/Pitting, crevice, and microbiologically influenced corrosion	XI.M30 Fuel Oil Chemistry	No
NEI-28	VII.C1 VII.C3 VII.G VII.H2	Piping, piping components, and piping elements	Stainless steel	Raw water	Loss of material/Pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-29	V.D1 VD2 VII.C1 VII.C2 VII.C3 VII.G VII.H1 VII.H2 VIII.G	Piping, piping components, and piping elements	Stainless steel	Soil	Loss of material/Pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-30	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Piping, piping components, and piping elements	Stainless steel	Treated water	Loss of material/Pitting and crevice corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-31		Piping, piping components, and piping elements	Stainless steel	Steam	Loss of material/Pitting and crevice corrosion	XI.M2 Water Chemistry	

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-32	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Piping, piping components, and piping elements	Stainless steel	Treated water >140°F	Cracking/Stress corrosion cracking	XI.M2 Water Chemistry	No
NEI-33	VII.G VII.E1 VII.H1 VII.H2	Piping, piping components, and piping elements	Stainless steel	Lubricating oil	Loss of material/Pitting, crevice, and microbiologically influenced corrosion	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-34		Piping, piping components, and piping elements	Stainless steel	Closed cycle cooling water	Loss of material/Pitting and crevice corrosion	XI.M21 Closed Cycle Cooling Water System	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-35	V.A V.B V.D1 V.D2 VII.A3 VII.A4 VII.C2 VII.E2 VII.E3 VII.E4 VII.F1 VII.F2 VII.F3 VII.F4 VII.H1 VII.H2 VIII.E VIII.F VIII.G	Piping, piping components, and piping elements	Stainless steel	Closed cycle cooling water >140°F	Cracking/Stress corrosion cracking	A plant-specific aging management program is to be evaluated.	Yes, plant specific
NEI-36	VII.C1 VII.C3 VII.G VII.H2	Heat exchanger tubes	Stainless steel	Raw water	Reduction of heat transfer/biofouling	XI.M20 Open Cycle Cooling Water System	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-37	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Heat exchanger tubes	Stainless steel	Treated water	Reduction of heat transfer/biofouling	XI.M2 Water Chemistry	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-38	V.A V.B V.D1 V.D2 VII.A3 VII.A4 VII.C2 VII.E2 VII.E3 VII.E4 VII.F1 VII.F2 VII.F3 VII.F4 VII.H1 VII.H2 VIII.E VIII.F VIII.G	Heat exchanger tubes	Stainless steel	Closed cycle cooling water	Reduction of heat transfer/biofouling	XI.M21 Closed-Cycle Cooling Water System	No

Item	Link	Structure and/or Component	Material	Environment	Aging Effect/ Mechanism	Aging Management Program (AMP)	Further Evaluation
NEI-39	V.C V.D2 VII.A2 VII.A4 VII.E3 VII.E4 VIII.D2 VIII.E VIII.G	Tanks	Stainless steel	Treated water >140°F	Cracking/Stress corrosion cracking	XI.M2 Water Chemistry The AMP is to be augmented by verifying the effectiveness of water chemistry control. See Chapter XI.M32, "One-Time Inspection," for an acceptable verification program.	No